IN THE CLAIMS

Please amend claims 5, 6, 19, 20 and 22, as set forth below.

The text of all pending claims, along with their current status, is set forth below:

1. (Original) A method for clustering a set S of n data points to find k final centers, comprising:

partitioning said set S into P disjoint pieces $S_1,\ldots,S_P$;

for each said piece S_i, determining a set D_i of k intermediate centers;

assigning each data point in each piece S_i to the nearest one of said k intermediate centers;

weighting each of said k intermediate centers in each set D_i by the number of points in the corresponding piece S_i assigned to that center; and

clustering said weighted intermediate centers together to find said k final centers, said clustering performed using a specific error metric and a clustering method A.

2. (Previously presented) The method according to claim 1 further comprising:

merging said weighted centers into a single dataset D' prior to clustering.

3. (Previously presented) The method according to claim 1 wherein P is sufficiently large enough such that each piece Si obeys the constraint $|S_i| < M$, where M is the size of a physical memory or a portion thereof to be used in processing said each piece.

4. (Canceled)

5. (Currently amended) The method according to claim 1[[4]] wherein said clustering is performed upon iteratively obtained weighted intermediate clusters.

6. (Currently amended) The method according to claim 1[[4]] wherein said set S is replaced by weighted intermediate centers of the previous iteration when iteratively performing said partitioning, determining, assigning, and weighting.

7. (Previously presented) The method according to claim 1 wherein said determining is performed using said specific error metric and said clustering method A.

8. (Previously presented) The method according to claim 1 wherein said specific error metric is the minimizing of the sum of the squares of the distances between points and their nearest centers.

9. (Previously presented) The method according to claim 1 wherein said specific error metric is the minimizing of the sum of the distances between points and their nearest centers.

10. (Previously presented) The method according to claim 1 wherein said clustering method is an approximation-based method.

11. (Previously presented) The method according to claim 8 wherein the distance is the Euclidean distance.

12. (Previously presented) The method according to claim 9 wherein the distance is the Euclidean distance.

13. (Previously presented) The method according to claim 1 further comprising:

considering a second set of data points for obtaining a second k final centers after said set S is clustered;

repeating partitioning, determining, assigning and weighting for said second set of data points; and

clustering weighted intermediate centers obtained from said second set of data points together with said weighted intermediate centers obtained from said data set S, said clustering performed using said specific error metric and said clustering method A.

14. (Previously presented) The method according to claim 1 wherein said partitioning, determining, assigning and weighting is performed in parallel for each piece S_i.

15. (Original) An article comprising a computer readable medium having instructions stored thereon which when executed causes clustering a set S of n data points to find k final centers, said clustering implemented by:

partitioning said set S into P disjoint pieces $S_1,\ldots,S_P$;

for each said piece S_i, determining a set D_i of k intermediate centers;

assigning each data point in each piece S_i to the nearest one of said k intermediate centers;

weighting each of said k intermediate centers in each set D_i by the number of points in the corresponding piece S_i, assigned to that center; and

clustering said weighted intermediate centers together to find said k final centers, said clustering performed using a specific error metric and a clustering method A.

16. (Previously presented) The article according to claim 15 further implemented by:

merging said weighted centers into a single dataset D' prior to clustering.

17. (Previously presented) The article according to claim 15 wherein P is sufficiently large enough such that each piece S_i, obeys the constraint $|S_i| < M$, where M is the size of a physical memory or a portion thereof to be used in processing said each piece.

18. (Canceled)

19. (Currently amended) The article according to claim 15[[1]] further implemented by:

considering a second set of data points for obtaining a second k final centers after said set S is clustered;

repeating partitioning, determining, assigning and weighting for said second set of data points; and

clustering weighted intermediate centers obtained from said second set of data points together with said weighted intermediate centers obtained from said data set S, said clustering performed using said specific error metric and said clustering method A, resulting in said second k final clusters.

20. (Currently amended) The article ~~method~~ according to claim 15[[1]] wherein said partitioning, determining, assigning and weighting is performed in parallel for each piece S.

21. (Original) An apparatus for clustering a set S of n data points to find k final centers, said apparatus comprising:

a main memory;

a processor coupled to said memory, said processor configured to partition said set S into P disjoint pieces $S_1,\ldots,S_P$ such that each piece S_i fits in main memory, said each piece S_i first stored separately in said main memory and then clustered by said processor performing:

for each said piece S_i, determining a set D_i of k intermediate centers;

assigning each data point in each piece S_i, to the nearest one of said k intermediate centers;

weighting each of said k intermediate centers in each set D_i by the number of points in the corresponding piece S_i, assigned to that center; and

clustering said weighted intermediate centers together to find said k final centers, said clustering performed using a specific error metric and a clustering method A.

22. (Currently amended) An apparatus for clustering a set S of n data points to find k final centers, said apparatus comprising:

a main memory;

a plurality of processors coupled to said main memory, one of said processors configured to partition said set S into P disjoint pieces $S_1,\ldots,S_P$ such that each piece S_i, fits in main memory, said each piece S_i, first stored separately in said main memory and then clustered by each said processor performing:

for each said piece S_i, determining a set D_i of k intermediate centers;

assigning each data point in each piece S_i, to the nearest one of said k intermediate centers; and

weighting each of said k intermediate centers in each set D_i by the number of points in the corresponding piece S_i, assigned to that center, further wherein after saidaid weighting, one of said processors finally clustering said weighted intermediate centers together to find said k final centers, said clustering performed using a specific error metric and a clustering method A.